

Incentives for Implementing Energy Saving Technologies

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Presentation Goal

- ◆ **Cover basic incentives available and how you can utilize them**
- ◆ **Many other sub-Programs and Services available** (*contact BS rep or web*)
- ◆ **All Mass Utilities work collaboratively to provide similar incentives and services across the State**

Who Provides Energy Efficiency Programs

- ◆ Funds provided by conservation charges on utility bills

- *Large C&I \$0.0025 Conservation , \$0.0005 Renewables*

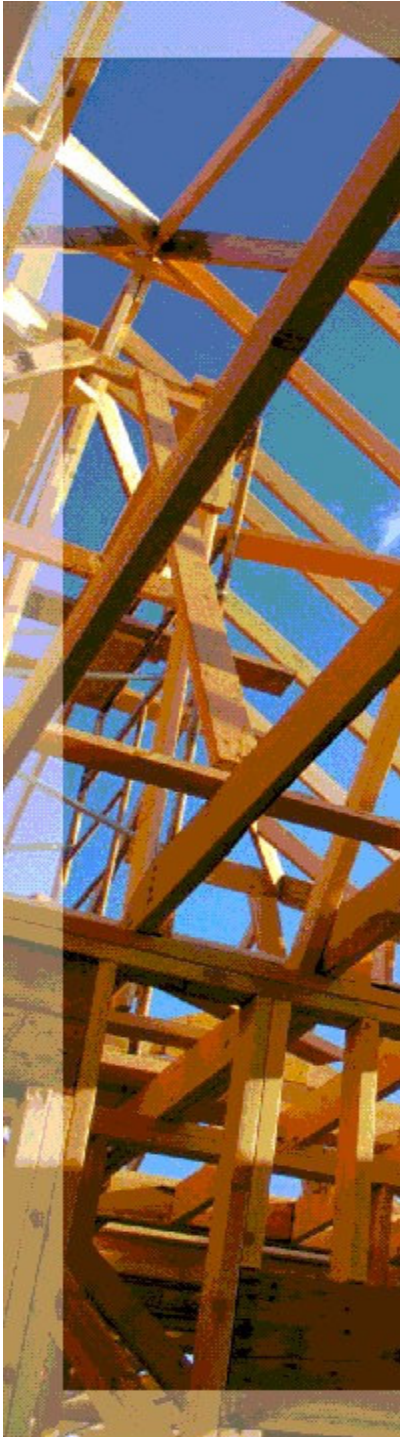
- ◆ Funds managed by Investor Owned Electric and Gas Utilities

- ◆ National Grid
 - ◆ NSTAR
 - ◆ Western Mass Electric
 - ◆ Unitil
 - ◆ Cape Light Compact (Cape and Vineyard)
 - ◆ Keyspan, Baystate Gas, Berkshire Gas, NE Gas

- ◆ Programs approved through 2012!!

Efficiency Program Budgets

- **Total Program** (LC&I, SBS & Residential)
 - **Budget** \$46,000,000
 - **Savings** 200,000,000 kWh
- ◆ **Large Commercial & Industrial**
 - **New Equipment & Construction** \$8 mil
 - **Retrofit** \$7 mil
 - **Technical Assistance** \$1.5 mil



Design 2000_{plus} and Energy Initiative

- ◆ **Objective of the programs**
 - Offer technical assistance to customers, contractors, vendors, etc. to **identify and evaluate energy efficiency opportunities**
 - Provide incentives to customers to **improve the efficiency of their equipment and their facilities**

Energy Efficiency Program Tracks

- ◆ **Large Business Programs:**

- ***Energy Initiative - Retrofit***

- ✓ **Targets energy efficient opportunities for existing buildings and equipment**
 - ✓ **Replaces inefficient equipment or systems**
 - ✓ **Reduces owners operating costs**
 - ✓ **Incentives up to 45% of project costs**

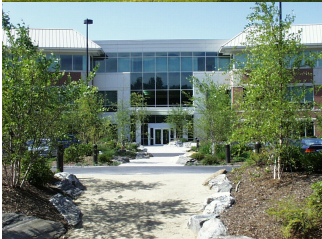


Energy Efficiency Program Tracks

- ◆ **Large Business Programs:**

- ***Design 2000plus - New Construction***

- ✓ **Targets new construction, major renovations and equipment replacement**
- ✓ **Promotes selection and installation of higher efficiency equipment and systems**
- ✓ **Promotes comprehensive and optimized systems during design phase**
- ✓ **Incentives up to 80% of incremental costs**



Program Track Options

➤ **Prescriptive approach**

Predetermined incentive amounts for individual efficiency measures

- Lighting
- Motors
- VFD
- HVAC
- Air Compressors

➤ **Applications and Eligibility Requirements available on-line**

Program Track Options

- **Custom approach**
 - For unique projects and equipment
 - Project requires engineering evaluation of costs and savings
 - Incentives based on actual costs
 - Projects must pass Benefit/Cost screening to determine eligibility for incentives
- **Business Services Representative will lead you through the process!**

NGrid's ISOS Program

- ♦ **Industrial Systems Optimization Services**

- Special program targeted at industrial production or process equipment
- Looks beyond just electric savings!
 - Fuel savings (gas, oil, propane, etc)
 - Resource conservation (*water, chemicals, etc*)
 - Productivity Improvements (*increased production, less waste, decreased labor costs, etc.*)

NGrid's ISOS Program (con't)

- ♦ **Program allows us to base incentive \$\$\$ on part of project costs versus all of project costs**
 - **Example:**
 - New production equipment costs \$250,000
 - Savings will be \$25,000 in electricity and \$25,000 in chemicals
 - Typical Benefit/Cost evaluation only looks at electric savings ($\$250k / \$25k = 10$ Year PB ->no incentive)
 - ISOS allows cost allocation based on savings (50% of savings is electric so $\$250k \times 50\% = \$125k$)
 - Project now eligible for incentive ($\$125k / \$25k = 5$ Year PB -> \$56,000 incentive)

Technical Assistance Services

- ♦ What is it
 - ♦ In depth engineering analysis
 - ♦ Determines costs and energy savings to shows the customer their best options
- ♦ Who provides it
 - ♦ Usually done through an independent consultant identified by National Grid
 - ♦ Can be provided by customers engineering firm
- ♦ What does it cost
 - ♦ National Grid will typically share the cost 50-50.

Technical Assistance Studies

- **Must Document and Evaluate**
 - Equipment Efficiencies & Operating Parameters
 - Process Load Profile over time!
- **Process Systems More Complicated!**
 - Fluctuations in Production over time
 - Variations in Product Produced
- **Metering usually Required to Document**
 - Power, Flow, Pressures, Temps, etc

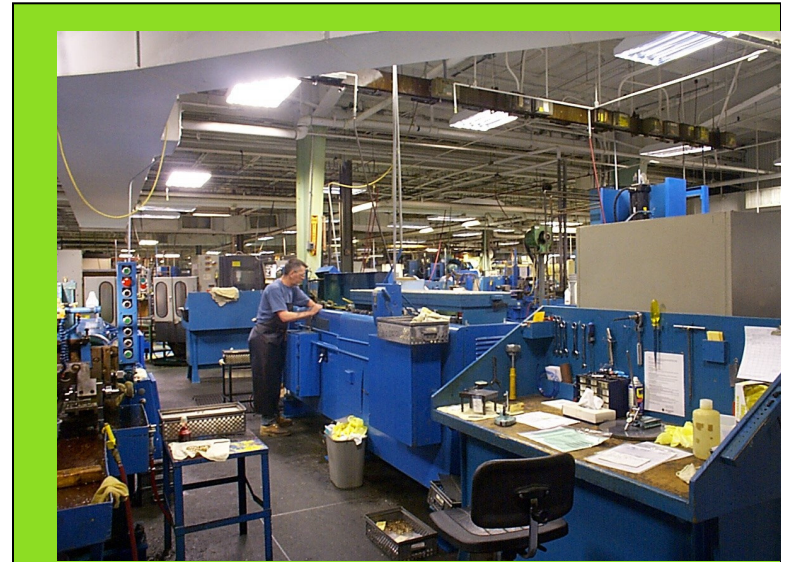
Custom Process Projects

- ♦ **What type of process systems are involved in our Programs and Services**
 - Paper, printing, Injection molding, Electronics, Food Processing, Steel Fabrication, Fabrics, WWTP, etc.
- **How Many Process projects per year**
 - 25-35 Projects
 - 4-8 Million kWh in savings
 - \$1,000,000 - \$2,000,000 in Incentives

Customer Profile – Plating and Anodizing

- ◆ Retrofit – Improved the cooling and ventilation equipment on 3 anodizing tanks

Electric Energy Savings	343,000 kWh
Electric Cost Savings	\$40,000
Project Costs	\$150,000
National Grid Incentive	\$68,000
Net Cost	\$82,000
Simple Payback	2.0 Years



- ◆ Efficiency *Measures include:*
 - Replace Chiller with cooling tower and new pumps
 - Install VFDs on exhaust hoods
 - Install new control system to optimize process

Customer Profile – Metal Forging

- ◆ Improved the scale removing process in their metal forging shop

Electric Cost Savings	\$7,000
Consumable Metal Shot	\$30,000
Labor (undetermined)	
Project Costs	\$115,000
National Grid Incentive	\$15,000
Net Cost	\$100,000
◆ Simple Payback	2.7 Years



- ◆ Efficiency *Measures include:*
 - New metal shot blasting equipment
 - Improved production time
 - Reduced consumable metal shot

Customer Profile – Food Processing

◆Improved a milk mixing and pasteurization process

Electric Cost Savings	\$70,000
Natural Gas	\$20,000
Water & Sewer	\$ 2,000
Labor	\$60,000
Project Costs	\$605,000
National Grid Incentive	\$272,000
Net Cost	\$333,000
Simple Payback	2.2 Years



◆Efficiency *Measures include:*

- New automated product blending system
- Higher efficiency pasteurization line
- High efficiency motors, controls, etc.

Next Steps!

- ◆ **Contact Utility Account Manager when considering equipment improvement, replacement or new construction**
- ◆ **NGrid will provide our in house Technical Services Consultants and outside consultants as needed**
- ◆ **www.nationalgridus.com**
- ◆ **Renewable Energy Projects!**
 - ◆ **Contact the Mass Technology Collaborative**
 - ◆ **<http://www.mtpc.org/index.asp>**